



# P.K.M. COLLEGE OF EDUCATION

MADAMPAM, KAITHAPRAM PO, KANNUR-670631, Website-www.pkmcollge.org Govt. Aided Teacher Education Institution affiliated to Kannur University Recognized by NCTE and included under UGC 2(f) & 12B category Accredited by NAAC with 'A' Grade, RUSA 2.0 beneficiary

# PROGRAMME PORTFOLIO

## DEPARTMENT OF MATHEMATICS 2020 - 22



# **REPORT OF MATHEMATICS OPTIONAL CLASS**

## **OF THE YEAR 2020-22**

### **Objectives**

1. To nurture, create and mold inspiring mathematics teachers.
2. To enable and up to date student teachers to have online teaching techniques so that to make them good online teachers.
3. To acquire mastery in various techniques and hence to create efficient next generation teachers.
4. To mold excellent teachers through discussion, criticism and demonstration classes.
5. To be proficient in planning and executing lessons.
6. To develop competency in teaching exceptional children and all types of children.
7. To develop competency in student teachers to pass K-TET exams.
8. Provide opportunities to teacher student that enable learning experience to make subject matter meaningful at secondary level.
9. To prepare dedicated teachers for improvement of the school education system.
10. To understand the history of mathematics and mathematician so that the teacher students get motivated, decrease their anxiety related to the subject, building positive attitude towards the subject and have a better understanding about mathematics.

### **Activities Planned**

1. Seminar presentations
2. Preparation of K-TET questions
3. Activities of club Math Lovers
4. Discussion Lesson Plan
5. Demonstration Lessons
6. Criticism lessons

7. Geogebra practices
8. Video lesson preparation
9. Webinar on online teaching
10. National mathematics day celebration
11. Releasing of mathematics magazine
12. Pi day celebration

## **Report**

Online class for the academic year 2020-2021 started on first June 2020. This day started with an evaluation of all activities done during April and May. Briefing of semester III was done and action plan for this semester was given.

Geogebra practice was done for lessons in class 8 & class 9. All students downloaded Geogebra in their laptop and regular practice was done.

The following seminars were taken as the part of curricular activities.

Date	Name	Topics
03.06.20	Angeline Stephen	ICT in improving teaching and learning
04.06.20	Anjali Varghese	Mathematics for all
05.06.20	Yamuna M. M	Programmed learning
08.06.20	Ragesh .T	Mathematics club
09.06.20	Ribisha .E	Multiple Intelligence
11.06.20	Anju Varghese	Gifted children and underachievers
12.06.20	Ambili Joseph	Slow learners in mathematics
14.06.20	Arsha M	Exceptional children in Mathematics

All seminars were conducted in the online mode. Zoom, Google meet, Whatsapp and Microsoft Teams were used as online platform. Student teachers are well equipped with all these online platforms. Cisco Webex meeting was also placed. But due to insufficient phone space and net connectivity problems, these Webex meetings were cancelled.

15<sup>th</sup> June onwards demonstration classes started. First demonstration class in Victors channel was seen on 15<sup>th</sup> June 2020 and discussion about this class was done on 16<sup>th</sup> June 2020. Discussion on 'what is case study and preparation on case study' format was done on 17<sup>th</sup> June 2020. Action research topic and the related concepts were discussed in the following three days.

Five demonstration classes and the discussion on those classes and writing of those classes were completed during 15.06.2020 to 22.06.2020. Then it was the turn for criticism classes. Criticism video classes were prepared by each students and the link was shared in the group. All students and teacher educator observed these classes and discussion on these criticism classes were done on scheduled days. Criticism discussion was done on 22.06.2020 to 01.07.2020.

### Schedule of Discussion for Criticism Classes

Date	Name	Topic
22.06.2020	Anju Varghese	Polynomials
23.06.2020	Yamuna M M	Probability
24.06.2020	Ragesh T	Compound Interest
25.06.2020	Ribisha E	Arithmetic Progression
26.06.2020	Arsha M	Area of Circle
29.06.2020	Anjali Varghese	Fibonacci Sequence
30.06.2020	Angeline Stephen	Square Pyramid
01.07.2020	Ambili Joseph	Ratio

After discussion of the remaining topics of semester III, internship practice arrangements were done. On 13<sup>th</sup> July 2020 onwards, online internship has started. For the internship, students were allotted schools and teachers of their interest. The following are the schools and teachers allotted for the internship.

Sl.No.	Name of the student	Name of the supervising teacher	Name of the school
1	Ambili Joseph	Biju Thomas	Maryland H S Madampam
2	Angeline Stephen	Treesa Maria Thomas	G H S S Nedungome
3	Anjali Varghese	Treesa Maria Thomas	G H S S Nedungome
4	Anju Varghese	Sijina Kinachi	G H S S Malur
5	Arsha M	Sijina Kinachi	G H S S Malur
6	Ribisha E	Shimna	K P C H S S Pattanur
7	Ragesh T	Jolly Joseph	St. Cornelius H S S Kolayad
8	Yamuna M M	Muad Sir	Sir Syed School Thaliparamba

Teacher- trainees participated in online internship programmes from 13.07.2020 to 20.08.2020. It was a very effective session in which teacher- trainees got ample experiences.

### **EFFECTIVE ONLINE TEACHING IN THE COVID ERA- WEBINAR**

A webinar on the topic "**EFFECTIVE ONLINE TEACHING IN THE COVID ERA** " was conducted on 15th July 2020 by Mathematics department of P.K.M College of Education, Kannur in association with Department of Mathematics Calicut university.

The world as we know it has changed in the blink of an eye. Schools closed overnight, students were liberated from schools and parents had to grapple with keeping children productive at home. Globally, over 1.2 billion children are out of the classroom. As a result, education has changed dramatically, with the distinctive rise of e-learning, whereby teaching is undertaken remotely and on digital platforms. The sudden lockdown can be a testing time for the students but due to the various exams being postponed what it offers is time. The isolation can be a gift for all students if they use it to their advantage by working towards their goal with utmost dedication. Online learning is a savior in these testing times and by choosing to learn from the most qualified teachers at the cheapest of prices students can make the most of the time that they have in their hand. There has been a huge surge in search phrases like “how to teach online”, “best online teaching platforms”, “online teaching tools”, and “online teaching techniques”. In this case, the only way for teachers to do so is to make the most of his potential online. Finding the right online teaching platform is just the first step. Learning how to use the various features correctly

is important. But using a platform and its features to teach effectively and ensure that all students are indeed learning is paramount. So, the Mathematics department of P.K.M College of Education in association with Mathematics department of Calicut University took an initiative to conduct a webinar on the topic suitable for this current situation.



The webinar was started at 10 am on 15 July 2020 through Zoom with a prayer and 57 participants were participated. The program Staff coordinator Dr. Sholy Joseph K, Head of the Mathematics department, P.K.M College of Education welcomed everyone to the webinar.

College principal Dr. Sr. Jessy N C presided over the webinar. The principal appreciated the organizers of this webinar for the discussion on a topic that was relevant to the time.



Thereafter Dr. Preethi Kuttipulackal, Associate professor and Head of the Mathematics Department, University of Calicut, inaugurated the webinar.

In the inaugural address, she pointed out the importance of online teaching in the current pandemic situation. The teacher pointed out that

online teaching is useful not only for children but also for all who see it. She said that we need to move forward by embracing the positive aspects of online teaching.



The class on the topic "**EFFECTIVE ONLINE TEACHING IN THE COVID ERA** " was handled by an eminent person Mr. Santhosh Kumar E V, Lecturer DIET Kannur. He dealt the class in two session. The first session covers the introduction and history of online classes. In second session he gave a clear understanding of pre-production, production and post production of video class making. In this session he introduced online platform like Moodle, google meet

etc. He explained the various steps required to build an effective online class in a very complete and clear manner. He said that teaching reach perfection only if the content knowledge, pedagogical knowledge and technological



knowledge go together. And it is the duty of the teacher to update all these aspects.

The webinar was ended at 12.10 pm with the vote of thanks of the Student coordinator Arsha M.

The webinar was very effective since the so many participants asked their doubts and question regarding to the topic. It was clarified by the Santhosh sir. The webinar ended in good manner as a result of everyone's collective effort.



## ONLINE LUDO COMPETITION "LUDO STAR"

We are now going through an era we never expected. With the advent of COVID-19 a lot of changes were happened in our lives. Its change can be seen in the field of education as well. Classes are now conducting through online. These sudden changes cause some kind of stress and tiredness among students. To get a mental relief from the tensions of the COVID-19 period, Mathematics department of P. K. M College of Education in association with Math club "Math Lovers" conducted an online ludo competition " Ludo Star" on 17 October 2020.

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Department of Mathematics & IQAC

IN ASSOCIATION WITH  
Department of Mathematics Calicut University

Webinar on  
**EFFECTIVE ONLINE TEACHING IN THE COVID ERA**

15<sup>th</sup>  
July 2020  
10 am  
zoom

**Inauguration**  
  
Dr. Preethi Kuttipulackal  
Associate Professor & Head,  
Department of Mathematics,  
University of Calicut

**RESOURCE PERSON**  
  
Santhosh Kumar E.V  
Lecturer, DIET Kannur

Welcome Speech : Dr. Sholy Joseph K  
Staff Co - ordinator,  
Asst. Prof. in Mathematics

Presidential Address : Dr. JESSY N.C  
Principal P.K.M. College  
of Education

Vote of Thanks : Miss. Arsha M  
Student Co-ordinator

Technical Support : Sr. Christeena & Joby Mathew

REACH US: 8129169890  
Link for Registration : [https:// forms.gle/kWezQp1uiYqR1TXf6](https://forms.gle/kWezQp1uiYqR1TXf6)



16 students participated in the competition. The announcement of online ludo competition was given on 14 October 2020. A WhatsApp group link was also provided for the students who want to participated in the competition. A demo of online ludo was also given to the participants on 16 October 2020 at 8.30 pm. The competition was started at 10am. 16 participants are divided into 4 groups and the code of the ludo was shared in WhatsApp group by one participant from each group. The first level of the competition was over by 11 am. The winners of the first level are Snetha K, Akhila E K of Malayalam department, Bency Scaria, Sivakeerthana Dinesh of Natural Science department.

There was a final competition between the winners of the first level. The final level started at 11.15 am. The final of the online ludo competition was over at 12pm and the winner of the online ludo competition was Snetha K of Malayalam department and the second prize won by Sivakeerthana Dinesh of Natural Science department.



## MENTORING DAY CELEBRATION



Mentoring is a professional activity, a trusted relationship and a meaningful commitment. October 27 is celebrated as National Mentoring Day. This is a day to remember our mentors and think about how we can become a good mentor. As part of this, the Math Lovers Club and Women Cell, Swatchata and Rural Engagement Cell of P. K. M. College of Education, Madampam jointly celebrated National Mentoring Day.

It was celebrated through the online platform-Microsoft Teams on 27<sup>th</sup> October, 2020 at 10:30 am.

Celebration started with a silent prayer. Dr. Sholy Joseph K welcomed the gathering. Principal Dr. Jessy N. C. inaugurated the function. The first paper presentation was by Anju Varghese. She gave detailed description about the mentoring in the present scenario. She described about different types of mentoring too.



The second presentation was on different mentoring skills. A detailed presentation about different types of skills was done by Jain James. She also presented a number of world-famous mentors in the history.

The program has ended with the vote of thanks of Yamuna M.



## **TEACHING PRACTICE**

Teaching practice started on 18<sup>th</sup> January 2021 and ended on 23<sup>rd</sup> February 2021. Because of the pandemic condition, the batch didn't get opportunity to work with the regular school and so the teacher students had to go for peer teaching. The student teachers are divided in to six groups containing at least one student from each optional. This gave the opportunity to study the basics of all subject in a small period.

The practical examination was held on 9<sup>th</sup> March, 2021 at Maryland Highschool, Madampam.

## **FIRST YEAR CLASSES**

The classes of first year B.Ed. students, 2020-2022 batch, were started on 10<sup>th</sup> December 2020, Thursday, in online mode.

## **SELF EXPOSITION PROGRAMME**

The Mathematics department of PKM college of education, Madampam organized a self-exposition program for first year B.Ed. students. The program was conducted on virtual platform on 14<sup>th</sup> December 2020, under the guidance of the head of the department Dr. Sholy Joseph K. It was a one-hour program which began at 11 a.m. All students introduced themselves and talked about their achievements and future plans during the program.

The regular classes were started on 1<sup>st</sup> January 2021, in online mode, from 12:00 pm to 5:00 pm. All the eight students actively participated in the online classes and clarified their doubts. Attendance was noted regularly. The online classes were made interesting by conducting online discussions, writing content analysis and by taking seminars. The students were given assignment which include preparing a picture album of mathematician, preparing 15 geometric patterns and 15 number patterns. National Mathematics day and Pie day was also celebrated during these days of online classes.

## **GEOMETRIC AND NUMBER PATTERN**

During the first week of online classes, students were given the task to draw 15 geometrical patterns and write 15 number patterns. Each student created their own works and submitted it to the teacher on 18-02-2021.

## **PICTURE ALBUM**

Students were given a task to create a picture album of famous mathematicians, including both Indian and non-Indian. Every one made their album in their own unique way, using their creative and innovative ideas. They included the picture, personal details and contributions of 15 mathematicians in their album. Everyone submitted the album on time and they were evaluated accordingly.

## **NATIONAL MATHEMATICS DAY**

22-12-2020

Apart from the usual way, the Mathematics department of PKM College of Education observed National mathematics day in a different way. A video highlighting the history and significance of Nation mathematics day was made by the students of mathematics department and was shared in the official WhatsApp group. Apart from the former one, a separate video '*Remembering Srinivasa Ramanujan*' was made on the legendary Indian mathematician, Srinivasa Ramanujan and was shared in the WhatsApp group so that all the students understand the importance of the day and also understand the significant contributions of Ramanujan in the field of Mathematics. All the students welcomed and responded positively to this approach of observing the day.

As per the notification of the university, regular offline classes for first year Bed students were started at the college campus. All the assignments given to the students during online classes were submitted during these days. Also, during leisure time the students were engaged in discussions regarding the making of their class magazine. Almost all portions were covered and all doubts were cleared during this offline classes.

## **MAGAZINE RELEASE**

27-02-2021

Sigma 2020-2022, the magazine made by first Year B.Ed. Mathematics optional students of PKM College of Education Madampam, Batch 2020-2022 has got released on 27 Feb 2021, during a meeting held at the college Seminar hall and the releasing was done by College principal Sr Jessy N C. The meeting began at 10am by the welcome Speech of Ms. Aswathi and after that the Magazine sub-editor Mrs. Anusree M briefly Touched upon her experience being the Editor and she shared all the milestones in The journey of this magazine. She Acknowledged the help she received from the Chief editor Dr Sholly Joseph K and all the Associate editors as well. The principal Handed the magazine over to the chief Editor during the releasing and all the Associate editors joined them on exhibiting the magazine. After that the keynote Address was delivered by the principal and on that she appreciated the hard work and Dedication of the all the editors. The meeting was concluded by the vote of Ms. Jisna Baby around 10:30am.






## PI DAY CELEBRATION

8-03- 2021

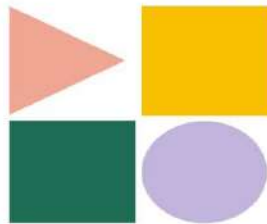

The first year B.Ed. students of PKM College of Education, Madampam celebrated Pi day on 08-03-2021 in the virtual platform zoom. It was a one hour program organised by first year mathematics students of PKM college, coordinated by Miss Maneesha Babu, under the guidance of assistant professor and HOD of mathematics department Dr. Sholy Joseph. The program began at 10:30 am with the college prayer. The inauguration was done by principal of the college, Dr.Jessy N C and the welcome speech was delivered by the student Fr.Toby S Abraham and the presidential address was delivered by Dr. Sholy Joseph. There was a 30 minutes presentation on the topic 'History and evaluation of Pi' by Miss Maneesha Babu highlighting the history, importance and application of mathematical constant Pi. In relation with the Pi day, the first-year mathematics student of PKM college also observed Pi week from 01-3-2021 to 07-03-2021 during which, 'Natural designing of Pi' competition was conducted for upper primary and secondary school students and mathematical puzzle solving competition was conducted for students of PKM College. The puzzle was shared in the official WhatsApp group during alternate days at sharp 5:00 p.m. Active participation of students were there for both the competitions. 28 students from different parts of Kerala participated in Natural designing of PI, the designs made by the students were combined together to form a video and that was played during the ceremony. The winners for both the competition was declared on March 8 during the online meeting. The program officially concluded at 11:30 with the vote of thanks by the student Mrs. Archana Madusoodanan.



Department of Mathematics  
presents,  
**PI DAY  
CELEBRATION**

### **PROGRAMME**

Prayer :  
welcome speech: Fr.Toby S Abraham  
( Student coordinator)  
Presidential address: Dr.Sholly Joseph K  
( Assistant professor in  
Mathematics )  
Inauguration: Dr. Jessy NC  
( Principal)  
Presentation on the topic 'HISTORY AND  
EVALUATION OF PI' by Maneesha Babu  
Video Presentation : NATURAL DESIGNS OF  
PI, made by upper primary and secondary  
school students  
Prize announcement of Puzzle solving  
competition and Natural designing of Pi  
competition  
Vote of thanks : Archana Madusoodanan  
( Student coordinator )

**PKM College of Education,  
Madampam**  
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point scale), RUSA 2.0 Beneficiary, UGC 2(f) 12(B)

**On 08-03-2021  
At 10:30 am  
In Zoom**

**PKM COLLEGE OF EDUCATION, MADAMPAM, KANNUR**  
Accredited by NAAC with 'A' grade ( Second cycle - 4 point scale), RUSA 2.0  
Beneficiary, UGC 2(f) 12(B)




Department of Mathematics  
**PI DAY CELEBRATION**  
on 08/03/2021

**PUZZLE SOLVING COMPETITION  
(FOR STUDENTS OF PKM COLLEGE)**

Instructions

- \* The question will be shared to the Whatsapp group on 01/03/21, 03/03/21 and 05/03/21 at 5pm
- \* Send your answers to 9995213025/ 9446196871 within 24hours.
- \* If more than one person gives the right answer, the lucky one will be chosen at random using lottery method.

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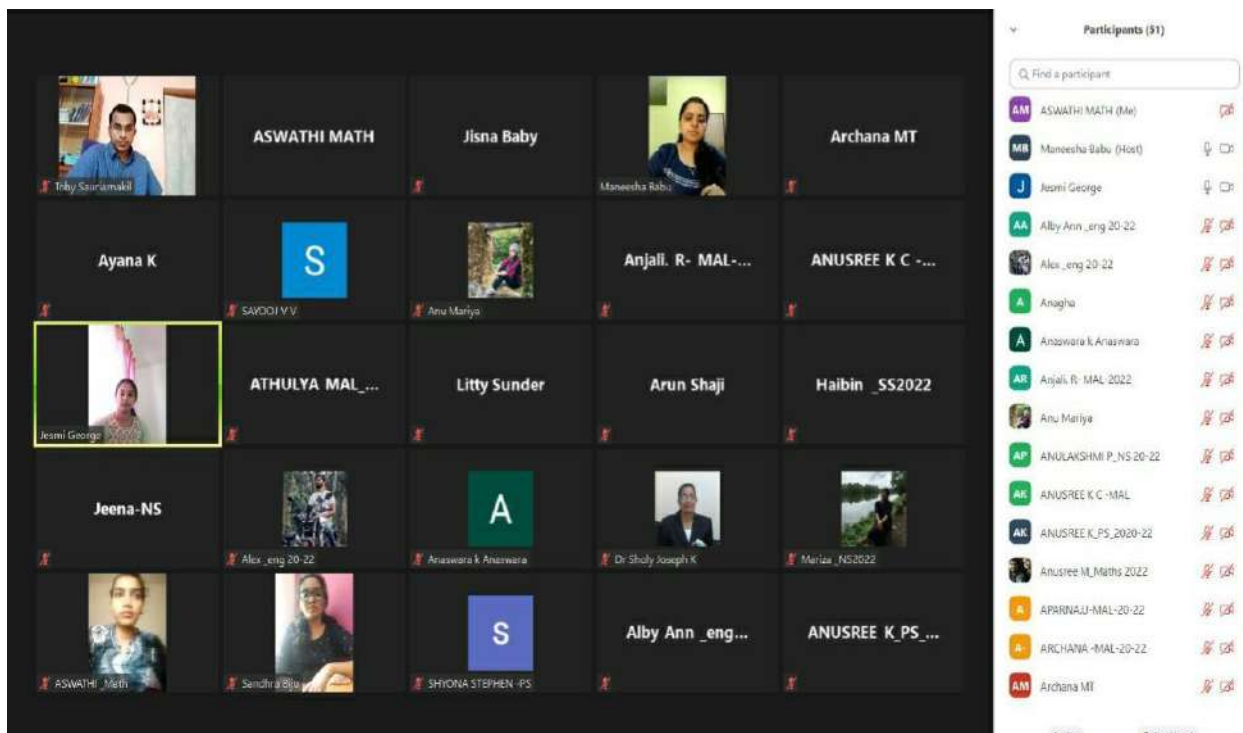
Department of Mathematics presents,  
**PI DAY CELEBRATION**  
on 08/03/2021

**NATURAL DESIGNING OF PI  
( FOR UPPER PRIMARY AND SECONDARY  
SCHOOL STUDENTS)**

Instructions

- \* Students who belong to the age group of 10 to 15 years can participate
- \* Share a 30 second video of your pi design to 9995213025/9446196871 before 05/03/2021, 6pm
- \* You can make use of anything from nature ( paper, shells, leaves, stones etc ) to design your pi





## SEMINAR

The classes of 1<sup>st</sup> year B.Ed. students were started on 10<sup>th</sup> December 2020 in online platform. During the first Week of January, the teacher allotted topic for the seminar. All the students prepared the seminar and presented on the following days,

Sl. No.	Date	Name of the Student	Topic
1	20/01/2021	Anusree	Qualities and competencies of good mathematics teacher- General qualities, specific qualities, personal qualities
2	28/01/2021	Maneesha Babu	Correlation of mathematics a.within the subject b.with other subject c. real life
3	01/03/2021	Jesmi George	Oral work, drill work, written work, homework, Review, Assignment, Small group techniques, Collaborative learning, Co-operative learning

4	02/03/2021	Aswathi	<p>Curriculum- Hearing, New trends in curriculum construction, their application in developing mathematics curriculum</p> <p>Principle of content selection- objectives based, child centered, correlated, cater to individual differences fulfilling requirements of higher education, flexible and practicable</p>
5	03/03/2021	Sandra Biju	<p>Principle of content organization- organizing the syllabus both logically and psychologically, topical, spiral and concentric approaches</p> <p>Reforms in Mathematics curriculum- National and state level reforms- NCERT Mathematics curriculum</p> <p>Mathematics curriculum reforms- SMP, SMSG, NCERT, NCF, KCF, Nuffield</p>
6	04/03/2021	Jisna Baby	<p>Professional growth of mathematics teacher</p> <p>Role of SCERT and NCERT in the professional growth of a teacher</p>
7	05/03/2021	Archana	<p>Techniques of individualizing instruction- Homogeneous grouping, supervised study and self-study</p>
8	06/03/2021	Toby S Abraham	<p>Teaching problem solving- Problem solving method and Project method</p>

## EVALUATION



The planned activities were done both in online and offline mode. Even though most of the classes were in online mode we were able to complete all the programmes as per plan. The planned objectives for this semester is attained.



**DEPARTMENT OF MATHEMATICS  
2020-22 BATCH**